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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,578	08/27/2003	Palash P. Das	2001-0021-06	8226

7590 06/22/2005

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EXAMINER

VANNUCCI, JAMES

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/650,578

Applicant(s)

DAS ET AL.

Examiner

Jim Vannucci

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,8-11 and 21-31 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1,8-11 and 21-31 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 2-17-04.
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 21, 23-24 and 26-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, this claim is vague because it is not clear if the limitation "said system" in the last line of the claim refers to the "gas discharge laser system" or the "pulse power system" that were previously recited in the claim.

Claims 1, 21, 23-24 and 26-31, the limitation "within 10nm to 20nm or less" is vague because it is not clear which value is the upper limit or lower limit of the recited range.

Claim Objections

3. Claims 28-29 are objected to because of the following informalities: the letter "c" is missing from the word "electrical" in the eighth line. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 8-11, 21, 23-24 and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen et al.(4,245,194) in view of Poustie(6,735,396).

Claims 1, 21, 23-24 and 26-31, Fahlen discloses a laser gas, a pair of elongated electrodes defining a discharge region, a fan for re-circulating the laser gas between the electrodes, a heat exchanger for removing heat from the laser gas(abstract; and col. 3, lines 2-10), and a pulse power system(fig. 6) for providing high voltage electrical pulses to produce discharges across the electrodes at repetition rates of 1000 Hz or greater(col. 6, table).

Fahlen does not disclose controlling jitter.

Figure 4 of Poustie discloses a controller means(14) for controlling jitter of all or substantially all of the discharges to an accuracy of 20ns or less(col. 10, line 44), and using a laser as a source for another system(18).

Claims 8-10, the disclosed laser system can be a light source in a reticle writing system, a reticle inspection system or a wafer inspection system.

Claim 11, figure 6 of Fahlen discloses a pulse power system with a sub-circuit(23) including a peaking capacitor bank with an inductance that can be set to less than 5 nH.

Claims 21 and 24, figure 4 of Poustie discloses adjusting the delay(14) from input trigger to laser light emission due to electrical discharge based in part upon temperature(col. 7, lines 44-46).

Claims 23-24 and 26, the means for adjusting the light delay from input trigger to laser light emission disclosed in Poustie(col. 7, lines 16-49) can compensate for light delays due to electrical discharge based at least in part upon the charging voltage of the pulse power system or due to electrical discharge based at least in part upon a charging voltage set for the upcoming discharge and a timing error determined for the just occurred discharge.

Claim 27, the means for adjusting the light delay from input trigger to laser light emission disclosed in Poustie(col. 7, lines 16-49) can compensate for light delays due to electrical discharge based at least in part upon a charging voltage set for the upcoming discharge and a timing error determined for the just occurred discharge, or upon the charging voltage in the pulse power system or upon a combination of these. The degree of adjustment is subject to a weighting factor that varies depending timing error including upon whether or not the timing error is outside of the range of 10 to 20 ns.

Claim 29, Poustie discloses adjusting the light delay from input trigger to laser light emission(col. 7, lines 16-49) due to electrical discharge based at least in part upon a charging voltage set for the upcoming discharge and a timing error determined for the just occurred discharge, or upon the charging voltage in the pulse power system or upon a combination of these. The degree of adjustment is subject to a weighting factor that varies depending upon timing error and including whether or not the timing error is

outside of the range of 10 to 20 ns. The laser chamber disclosed in Fahlen is contained in an easily replaceable module.

Claim 30, the module disclosed in Poustie is easily replaceable.

Claim 31, the disclosed laser system is made from easily replaceable modules.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the jitter control disclosed in Poustie with the device disclosed in Fahlen for improved jitter control(col. 7, lines 42-49).

6. Claims 11, 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen in view of Poustie as applied above, and further in view of Sullivan et al.(5,666,385).

Fahlen and Poustie do not disclose a magnetic circuit element.

Claims 22 and 25, figure 1 of Sullivan discloses electrical components that include a magnetic circuit element(102) for driving a load device(col. 4, lines 54-55).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a magnetic circuit element as disclosed in Sullivan with the device disclosed in Fahlen and Poustie to feed a load element as disclosed in Sullivan.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,618,421. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in this application concerning the gas discharge laser system are the same as those in U. S. Patent No. 6,618,421 with the exception that an additional very broad limitation concerning a common use of the device is included in the above recitation of this application. This use is obvious given the utility of the device.

Correspondence

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jim Vannucci whose phone number is (571) 272-1820.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be

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considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 872-9306.

A handwritten signature in black ink that reads "James Vannucci". The signature is fluid and cursive, with the first letter of each name being capitalized and prominent. Below the handwritten signature, the name "James Vannucci" is printed in a standard, black, sans-serif font.

James Vannucci